Office Memorandum · UNITED STATES GOVERNMENT

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TO : The Files

DATE: 30 July 1956

FROM :

25X1

SUBJECT: (Visit to _____ Contract RD-107, T.O. 4)

25X1

1. A meeting was held on 24 July at _____ 25X1
_____ Present at the meeting were: 25X1

25X1

2. _____ was informed that mid-frequency of the antenna 25X1
matrix should be 25.26 kc.

3. _____ stated that by trying various windings on three 25X1
different materials that happened to be on hand, an antenna Q of 120
had been achieved. He further stated that some investigation had
been made of the mutual coupling between the various antennas of
the matrix and it had been found that for a 2 inch spacing between
antennas there was coupling coefficient of .05. _____ has 25X1
been working on the problem of adding the antenna outputs and has
already achieved a transistor isolation stage design with a noise
figure of 6 db. ___ is planning on giving us a single output rather 25X1
than 20 separate outputs.

4. The development plan of the complete matrix is that all
component antennas will be developed together rather than one at
a time; thus one specific antenna design will not be finished appre-
ciably ahead of the others.

5. The following relations and definitions may be used in
future correspondence:

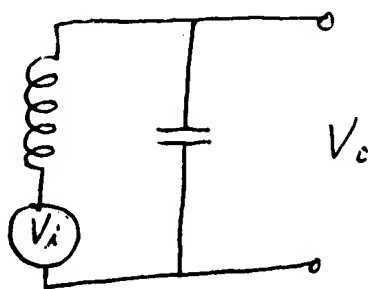Sensitivity is power output per unit field strength.

Effective permeability at low signal strength is equal
to initial permeability.

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SECRET

Antenna Equivalent ckt.

$V_c = Q V_i$

$V_i (f) = \lambda, \mathcal{N}_{ferrite}, \text{Coil dimensions}$

where $\mathcal{N}_{ferrite}$ is effective permiability of the ferrite and a function of Torroidal Permiability and length/diam. ratio.

V_i — Induced Voltage

V_c — output Voltage